```
=> fil casre; d que l23
FILE 'CASREACT' ENTERED AT 15:05:21 ON 09 NOV 2004
```

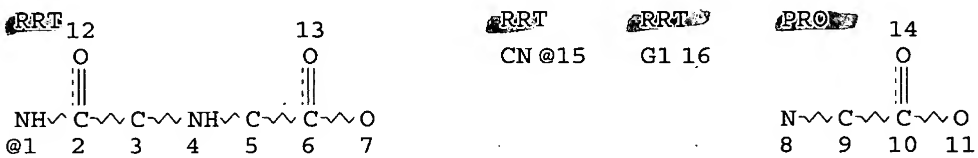

FILE CONTENT:1840 - 7 Nov 2004 VOL 141 ISS 19

```
***************************************************************
*                                                             *
*     CASREACT now has more than  8 million reactions         *
*                                                             *
***************************************************************
```

Some CASREACT records are derived from the ZIC/VINITI database (1974-1991) provided by InfoChem, INPI data prior to 1986, and Biotransformations database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance identification.

L9 STR

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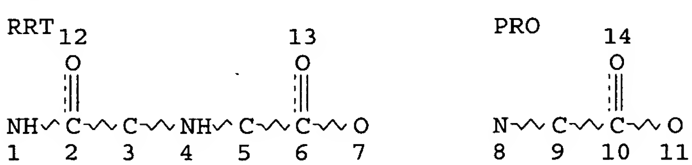
NODE ATTRIBUTES:
NSPEC    IS RC      AT   3
NSPEC    IS RC      AT   9
CONNECT  IS M3   RC AT   9
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  16

STEREO ATTRIBUTES: NONE
L11         2464 SEA FILE=CASREACT SSS FUL L9 ( 28581 REACTIONS)
L12              STR
```

RRT = reagent or reactant
PRO = product

full file search done on this structure



subset search done on this structure

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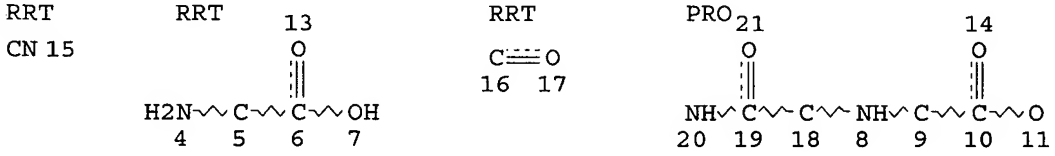
NODE ATTRIBUTES:
NSPEC    IS RC      AT   3
NSPEC    IS RC      AT   9
CONNECT  IS M3   RC AT   9
```

DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE
L18 [redacted] 12 SEA FILE=CASREACT SUB=L11 SSS FUL L12 (51 REACTIONS)
L20 STR



NODE ATTRIBUTES:
NSPEC IS RC AT 9
NSPEC IS RC AT 16
NSPEC IS RC AT 18
CONNECT IS M3 RC AT 9
DEFAULT MLEVEL IS ATOM
MLEVEL IS CLASS AT 8
DEFAULT ECLEVEL IS LIMITED

2nd full file search done on this structure

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 17

STEREO ATTRIBUTES: NONE
L22 8 SEA FILE=CASREACT SSS FUL L20 (25 REACTIONS)
L23 2 SEA FILE=CASREACT ABB=ON L18 AND L22

(A) → (B) → (C)

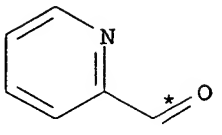
=> d ibib ed abs hit l23 1-2
'ED' IS NOT A VALID FORMAT FOR FILE 'CASREACT'
ENTER DISPLAY FORMAT (FCRDREF):end

=> d ibib abs hit l23 1-2

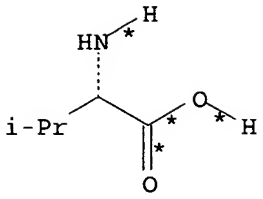
L23 ANSWER 1 OF 2 CASREACT COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 138:204799 CASREACT
TITLE: Synthesis of novel chiral ligands from amino acids by the Ugi reaction
AUTHOR(S): Dyker, Gerald; Breitenstein, Klaus; Henkel, Gerald
CORPORATE SOURCE: Institut fur Synthesechemie, Fachbereich 6, Gerhard-Mercator-Universitat Duisburg, Duisburg, D-47048, Germany
SOURCE: Tetrahedron: Asymmetry (2002), 13(17), 1929-1936
CODEN: TASYE3; ISSN: 0957-4166
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The Ugi multi-component reaction is employed for the efficient synthesis of chiral ligands starting from amino acids and aryl aldehydes bearing a Lewis-base functionality. Tests on the products as ligands for enantioselective transition metal catalysis gave promising results in the palladium-catalyzed allylic substitution with e.e. values up to 81%.
REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

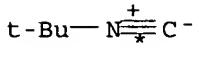
RX(1) OF 11 **A** + **B** + **C** + D ===>
E



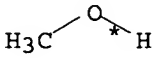
A



B

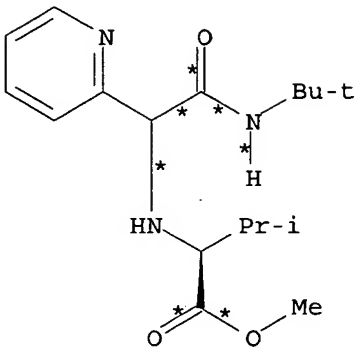


C



D

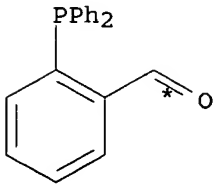
(1)



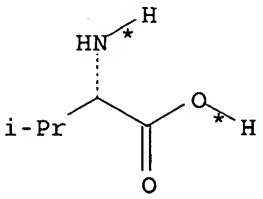
E
YIELD 67%

RX(1) RCT A **1121-60-4**, B **72-18-4**, C **7188-38-7**
, D 67-56-1
PRO E **500316-79-0**
SOL 67-56-1 MeOH
NTE Ugi reaction

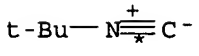
RX(2) OF 11 **F** + **B** + **C** + D ===>
G...



F



B



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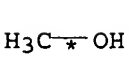
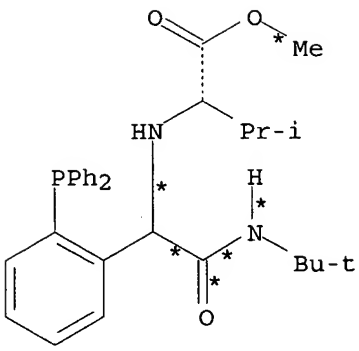


D

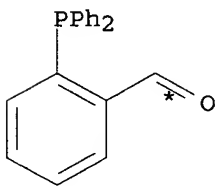
(2)



G
YIELD 90%

RX(2) RCT F **50777-76-9**, B **72-18-4**, C **7188-38-7**
, D 67-56-1
PRO G **500316-80-3**
SOL 67-56-1 MeOH
NTE yield depends on reaction conditions, Ugi reaction

RX(4) OF 11 **F** + **B** + **N** + D ===>
O...



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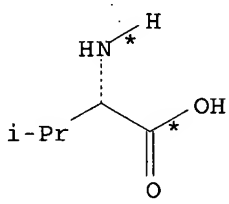
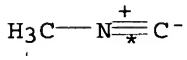
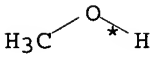


B

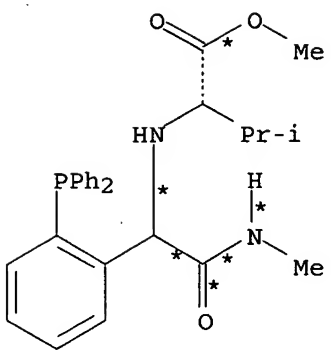


N



D

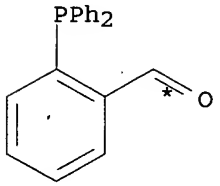
(4)



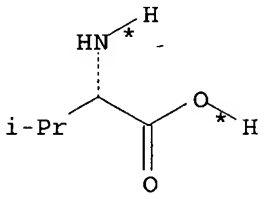
O
YIELD 73%

RX(4) RCT F **50777-76-9**, B **72-18-4**, N **593-75-9**
, D 67-56-1
PRO O **500316-81-4**
SOL 67-56-1 MeOH
NTE Ugi reaction

RX(5) OF 11 **F** + **B** + **P** + D ===>
Q



F



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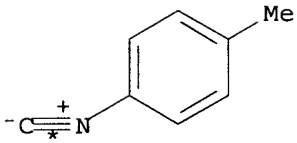
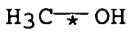
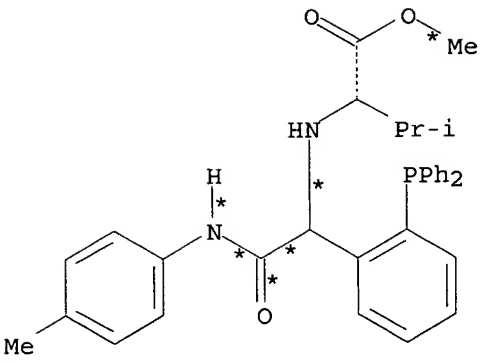


P



D

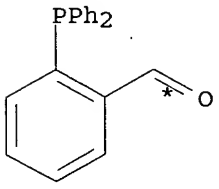
(5)



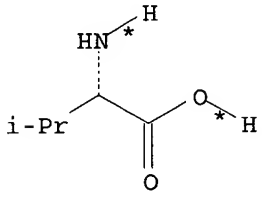
Q
YIELD 39%

RX(5) RCT F **50777-76-9**, B **72-18-4**, P **7175-47-5**
, D 67-56-1
PRO Q **500316-82-5**
SOL 67-56-1 MeOH
NTE Ugi reaction

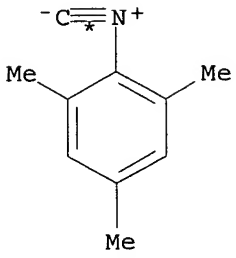
RX(6) OF 11 **F** + **B** + **R** + D ===>
S



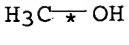
F



B

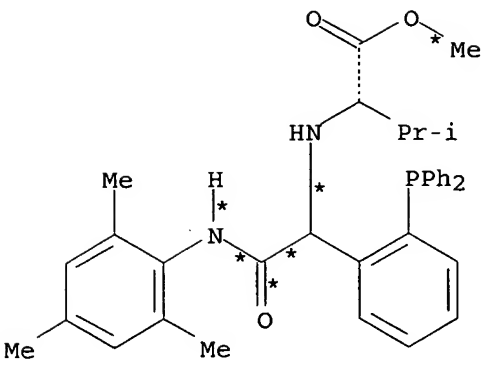


R



D

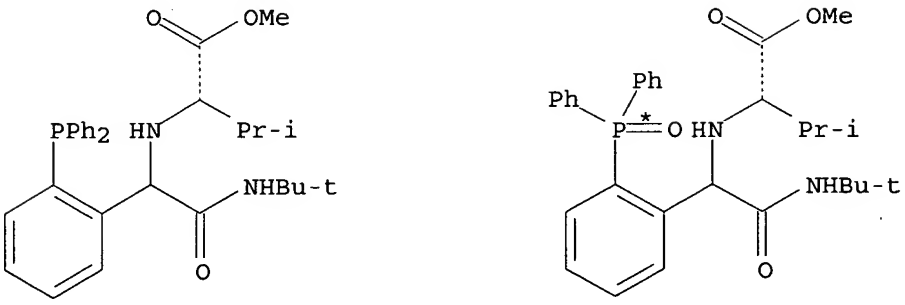
(6)
→



S
YIELD 60%

RX(6) RCT F **50777-76-9**, B **72-18-4**, R **57116-96-8**, D 67-56-1
PRO S **500316-83-6**
SOL 67-56-1 MeOH
NTE Ugi reaction

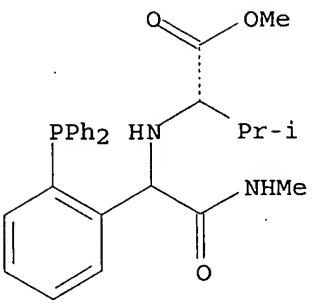
RX(8) OF 11 ...**G** ===> **V**



G V
YIELD 100%

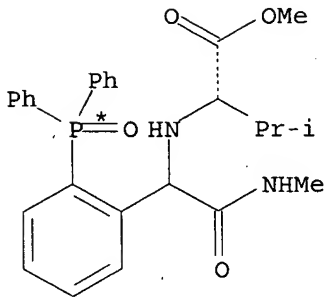
RX(8) RCT G **500316-80-3**
RGT W 7722-84-1 H2O2
PRO V **500316-84-7**
SOL 67-64-1 Me2CO, 7732-18-5 Water

RX(9) OF 11 ...**O** ===> **Z**



O

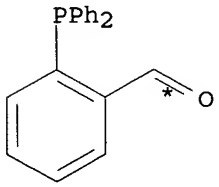
(9)



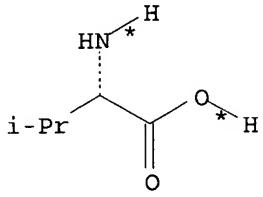
Z
YIELD 100%

RX(9), RCT O **500316-81-4**
RGT W 7722-84-1 H2O2
PRO Z **500316-85-8**
SOL 67-64-1 Me2CO, 7732-18-5 Water

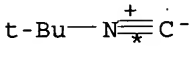
RX(10) OF 11 COMPOSED OF RX(2), RX(8)
RX(10) **F** + **B** + **C** + D ===> **V**



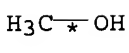
F



B

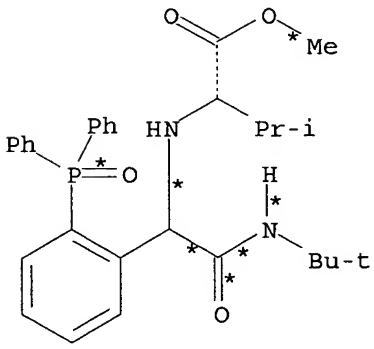


C



D

2
STEPS

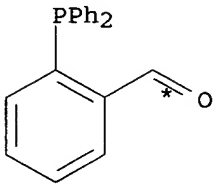


V
YIELD 100%

RX(2) RCT F **50777-76-9**, B **72-18-4**, C **7188-38-7**
, D 67-56-1
PRO G 500316-80-3
SOL 67-56-1 MeOH
NTE yield depends on reaction conditions, Ugi reaction

RX(8) RCT G 500316-80-3
RGT W 7722-84-1 H2O2
PRO V **500316-84-7**
SOL 67-64-1 Me2CO, 7732-18-5 Water

RX(11) OF 11 COMPOSED OF RX(4), RX(9)
RX(11) **F** + **B** + **N** + D ===> **Z**



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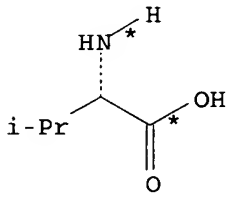
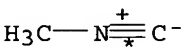
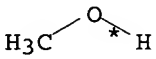


B

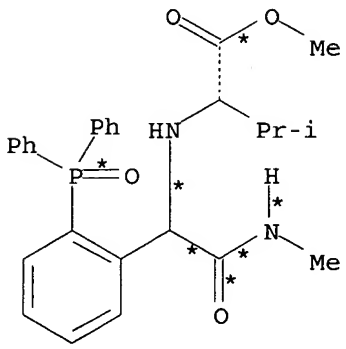


N



D

2
STEPS

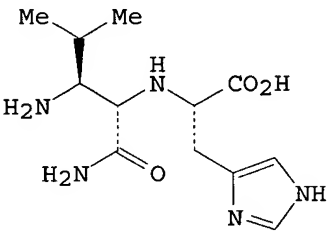


Z
YIELD 100%

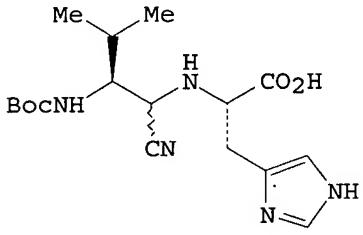
RX(4) RCT F **50777-76-9**, B **72-18-4**, N **593-75-9**
, D 67-56-1
PRO O 500316-81-4
SOL 67-56-1 MeOH
NTE Ugi reaction

RX(9) RCT O 500316-81-4
RGT W 7722-84-1 H2O2
PRO Z **500316-85-8**
SOL 67-64-1 Me2CO, 7732-18-5 Water

L23 ANSWER 2 OF 2 CASREACT COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 115:92899 CASREACT
TITLE: Synthesis and biological activity of angiotensin II analog containing a Val-His replacement, Val.psi.[CH(CONH2)HN]His
AUTHOR(S): Mohan, Raju; Chou, Yuo Ling; Bihovsky, Ron; Lumma, William C., Jr.; Erhardt, Paul W.; Shaw, Kenneth J.
CORPORATE SOURCE: Berlex Lab., Cedar Knolls, NJ, 07927, USA
SOURCE: Journal of Medicinal Chemistry (1991), 34(8), 2402-10
CODEN: JMCMAR; ISSN: 0022-2623
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I



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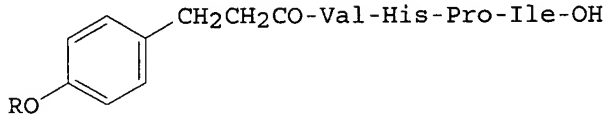
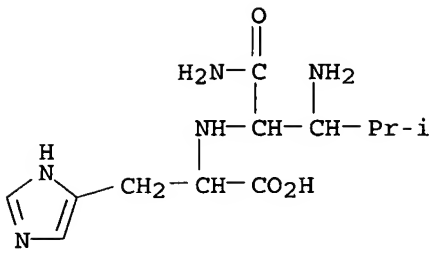


VI

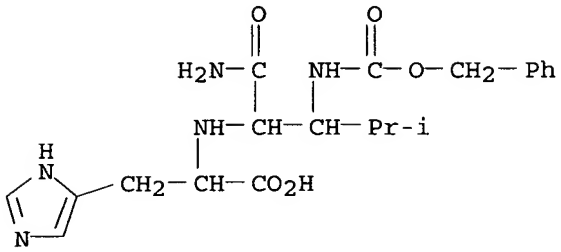
AB Dipeptide mimic H-Val.psi.[CH(CONH2)]-His-OH (I) was prepd. by treating Boc-L-valinal (Boc = Me3CO2C) with NaHSO3, histidine and NaCN and treating the resulting nitrile II with concn. H2SO4 and H2O. I was used in the synthesis of Z-Val.psi.[CH(CONH2)]-His-Pro-Ile-OH (III, Z = PhCH2O2C) by soln. methods. I was treated with (Boc)2O/Na2CO3 to give the corresponding Boc deriv., which was used in the solid-phase synthesis of saralasin deriv. Sar-Arg-Val-Tyr-Val.psi.[CH(CONH2)NH]His-Pro-Ile-OH (IV). C-terminal tetrapeptides Z-Val-His-Pro-Ile-OH (V) and VI (R = Me, H) were prepd. by soln. methods. All compds. were tested for their ability to displace 3H-AII (AII = angiotensin II) from rabbit adrenal gland homogenate and as antagonists of AII and AI on guinea pig ileum. The octapeptide III was 700 times less active than the parent peptide [Sar1,Val5,Ile8]-AII. The C-terminal fragments III, V, and VI have no measurable AII antagonist activity. Of the four tetrapeptide fragments, only V showed any appreciable binding activity.

RX(3) OF 27 ...J ===> L...



J

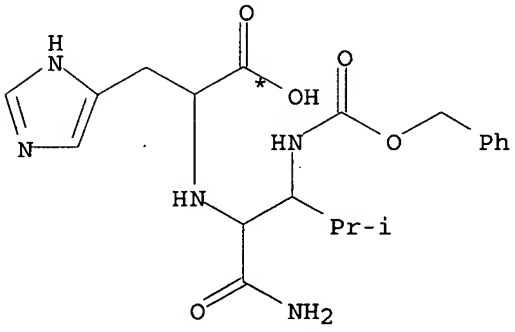
(3) →



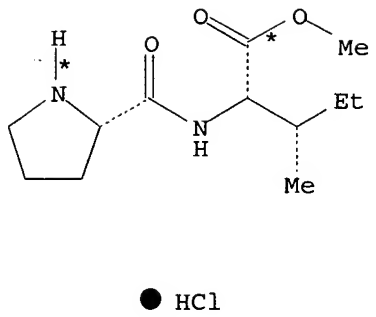
L
YIELD 30%

RX(3) RCT J **134359-69-6**
RGT M 497-19-8 Na2CO3
PRO L **134359-80-1**
SOL 7732-18-5 Water

RX(4) OF 27 ...**L** + N ===> O



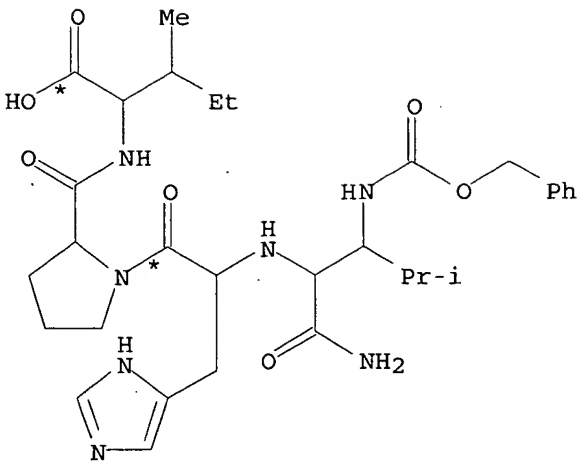
L



● HCl

N

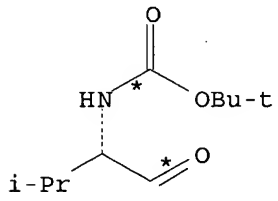
(4) →



O
YIELD 83%

RX(4) RCT L **134359-80-1**, N 80897-79-6
RGT P 538-75-0 DCC, Q 2592-95-2 1-Benzotriazolol, R 7087-68-5
EtN(Pr-i)2
PRO O **134359-81-2**
SOL 68-12-2 DMF, 75-09-2 CH2Cl2

RX(8) OF 27 COMPOSED OF RX(1), RX(2)
RX(8) 2 **A** + 2 **B** + 2 **C** ===> **J**



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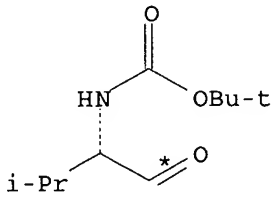

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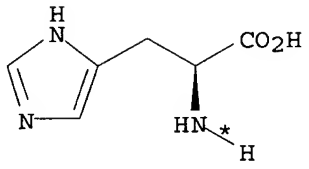

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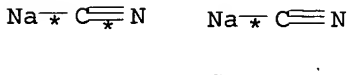
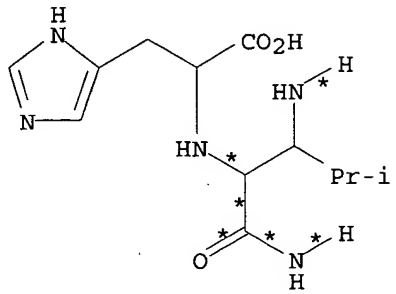


C C

2
STEPS



J
YIELD 36%

RX(1) RCT A **79069-51-5**

STAGE(1)
RGT F 7631-90-5 NaHSO3
SOL 67-56-1 MeOH, 7732-18-5 Water

STAGE(2)
RCT B 71-00-1
RGT G 1310-73-2 NaOH
SOL 67-56-1 MeOH, 7732-18-5 Water

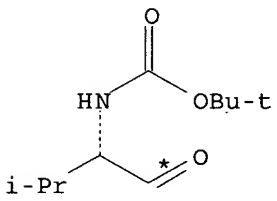
STAGE(3)
RCT C **143-33-9**
SOL 67-56-1 MeOH, 7732-18-5 Water
PRO D 134359-68-5, E 134453-08-0
NTE 79% overall

RX(2) RCT D 134359-68-5

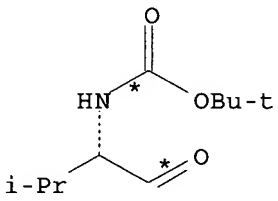
STAGE(1)
RGT K 7664-93-9 H2SO4

STAGE(2)
RGT I 7732-18-5 Water
SOL 7732-18-5 Water
PRO J **134359-69-6**
NTE ISOMERIC REACTANT ALSO PRESENT

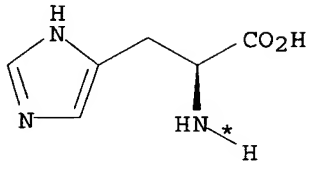
RX(9) OF 27 COMPOSED OF RX(1), RX(7)
RX(9) 2 **A** + 2 **B** + 2 **C** ===> **J**



A



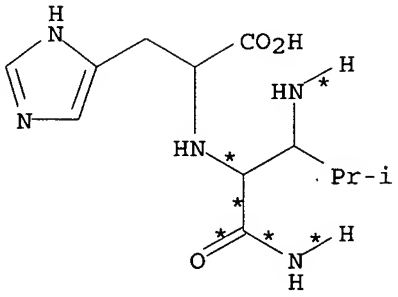
A



2 B

C C

2 STEPS



J
YIELD 36%

RX(1) RCT A **79069-51-5**

STAGE(1)
RGT F 7631-90-5 NaHSO3
SOL 67-56-1 MeOH, 7732-18-5 Water

STAGE(2)
RCT B 71-00-1
RGT G 1310-73-2 NaOH
SOL 67-56-1 MeOH, 7732-18-5 Water

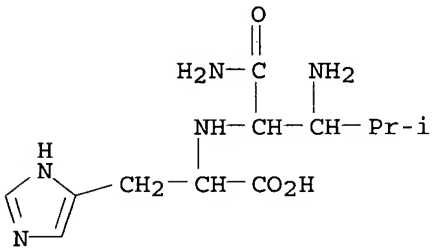
STAGE(3)
RCT C **143-33-9**
SOL 67-56-1 MeOH, 7732-18-5 Water
PRO D 134359-68-5, E 134453-08-0
NTE 79% overall

RX(7) RCT E 134453-08-0

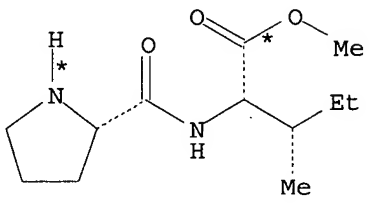
STAGE(1)
RGT K 7664-93-9 H2SO4

STAGE(2)
RGT I 7732-18-5 Water
SOL 7732-18-5 Water
PRO J **134359-69-6**
NTE ISOMERIC REACTANT ALSO PRESENT

RX(14) OF 27 COMPOSED OF RX(3), RX(4)
RX(14) **J** + N ===> **O**



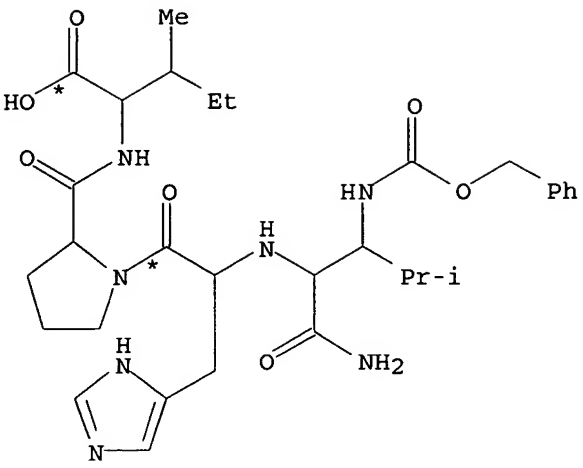
J



● HCl

N

2 STEPS

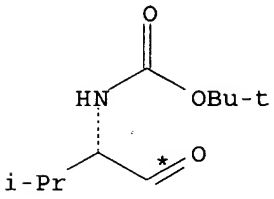


O
YIELD 83%

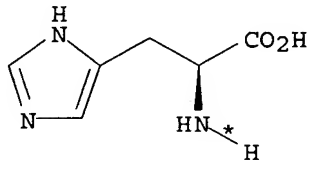
RX(3) RCT J **134359-69-6**
RGT M 497-19-8 Na2CO3
PRO L 134359-80-1
SOL 7732-18-5 Water

RX(4) RCT L 134359-80-1, N 80897-79-6
RGT P 538-75-0 DCC, Q 2592-95-2 1-Benzotriazolol, R 7087-68-5 EtN(Pr-i)2
PRO O **134359-81-2**
SOL 68-12-2 DMF, 75-09-2 CH2Cl2

RX(16) OF 27 COMPOSED OF RX(1), RX(2), RX(3)
RX(16) 2 **A** + 2 **B** + 2 **C** ===> **L**



2 A



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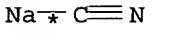
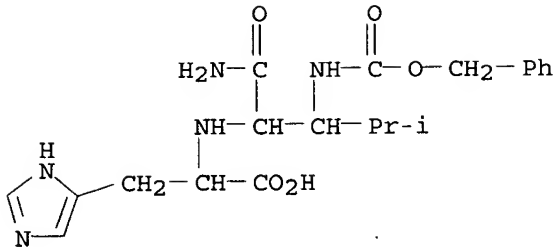


2 C

3 STEPS



L
YIELD 30%

RX(1) RCT A **79069-51-5**

STAGE(1)
RGT F 7631-90-5 NaHSO3
SOL 67-56-1 MeOH, 7732-18-5 Water

STAGE(2)
RCT B 71-00-1
RGT G 1310-73-2 NaOH
SOL 67-56-1 MeOH, 7732-18-5 Water

STAGE(3)
RCT C **143-33-9**
SOL 67-56-1 MeOH, 7732-18-5 Water
PRO D 134359-68-5, E 134453-08-0
NTE 79% overall

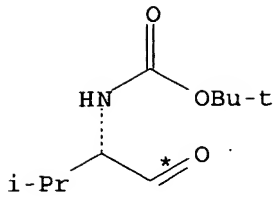
RX(2) RCT D 134359-68-5

STAGE(1)
RGT K 7664-93-9 H2SO4

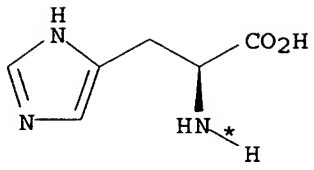
STAGE(2)
RGT I 7732-18-5 Water
SOL 7732-18-5 Water
PRO J 134359-69-6
NTE ISOMERIC REACTANT ALSO PRESENT

RX(3) RCT J 134359-69-6
RGT M 497-19-8 Na2CO3
PRO L **134359-80-1**
SOL 7732-18-5 Water

RX(18) OF 27 COMPOSED OF RX(1), RX(7), RX(3)
RX(18) 2 **A** + 2 **B** + 2 **C** ===> **L**



2 A



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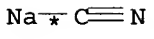
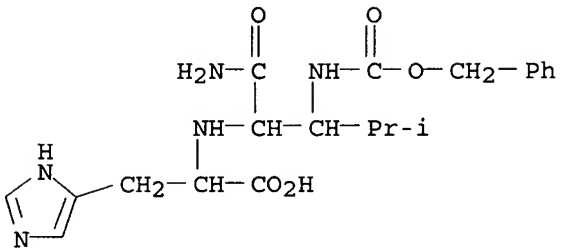


2 C

3 STEPS



L
YIELD 30%

RX(1) RCT A **79069-51-5**

STAGE(1)
RGT F 7631-90-5 NaHSO3
SOL 67-56-1 MeOH, 7732-18-5 Water

STAGE(2)
RCT B 71-00-1
RGT G 1310-73-2 NaOH
SOL 67-56-1 MeOH, 7732-18-5 Water

STAGE(3)
RCT C **143-33-9**
SOL 67-56-1 MeOH, 7732-18-5 Water
PRO D 134359-68-5, E 134453-08-0
NTE 79% overall

RX(7) RCT E 134453-08-0

STAGE(1)
RGT K 7664-93-9 H2SO4

STAGE(2)
RGT I 7732-18-5 Water
SOL 7732-18-5 Water
PRO J 134359-69-6
NTE ISOMERIC REACTANT ALSO PRESENT

RX(3) RCT J 134359-69-6
RGT M 497-19-8 Na2CO3
PRO L **134359-80-1**
SOL 7732-18-5 Water

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L9                STR
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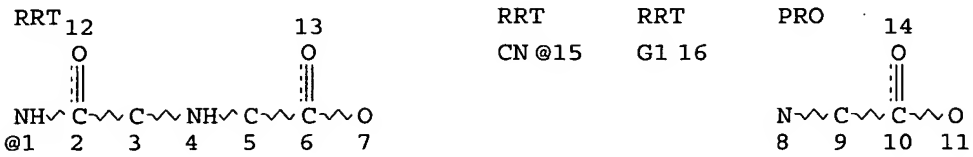


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NSPEC    IS RC      AT   9
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DEFAULT ECLEVEL IS LIMITED

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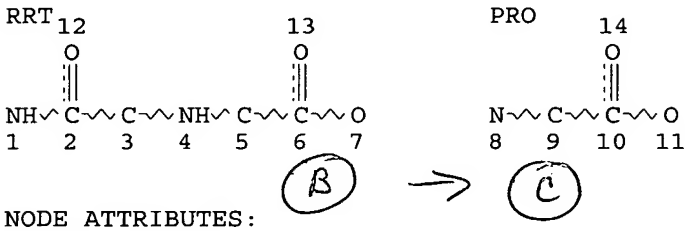


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DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

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NUMBER OF NODES IS  14

STEREO ATTRIBUTES: NONE
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100.0% DONE   2728 VERIFIED      51 HIT RXNS                    12 DOCS
SEARCH TIME: 00.00.01


=> s l18 not l23
L24            10 L18 NOT L23
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previously printed

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=> d ibib ab fhit 1 l24

L24  ANSWER 1 OF 10  CASREACT  COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER:         137:288058  CASREACT
TITLE:                    Synthesis and characterization of novel macrocycles
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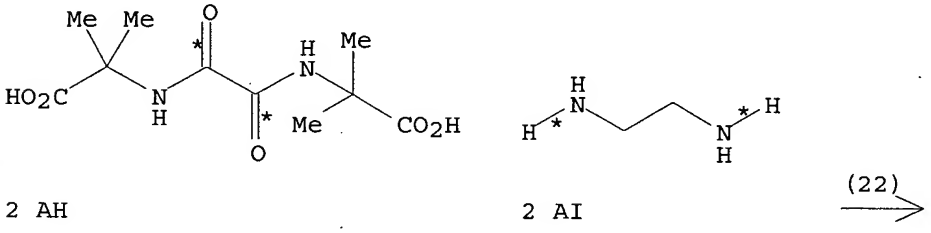
and their complexes with transition metal ions

AUTHOR(S): Tabassum, S.; Rafiqi, S. H.; Arjmand, F.
CORPORATE SOURCE: Department of Chemistry, Aligarh Muslim University, Aligarh, 202002, India

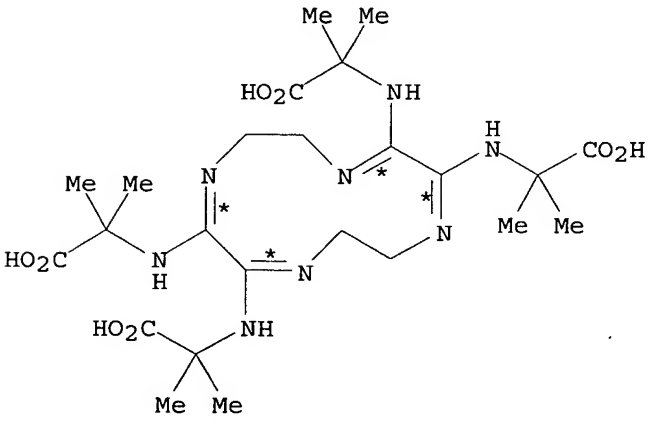
SOURCE: Synthesis and Reactivity in Inorganic and Metal-Organic Chemistry (2002), 32(5), 949-966
CODEN: SRIMCN; ISSN: 0094-5714
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Novel Schiff base macrocycles, 1,4,7,10-tetraazacyclododeca-5,6,11,12-tetraaminoisobutyric acid-4,6,10,12-tetraene (L1), 1,4,7,10-tetraazacyclododeca-5,6,11,12-tetraaminopiperizine-4,6,10,12-tetraene (L2) and 1,4,7,10-tetraazacyclodeca-5,6,11,12-tetraaminouracil-4,6,10,12-tetraene (L3) contg. pendant groups were synthesized by reactions of oxamidediisobutyric acid, oxamidedipiperazine or oxamidediuracil, resp., with ethylenediamine. Their 1st-row transition metal complexes [M(L)Cl2] and [M(L)Cl2]Cl were prepd. All of the compds. were characterized from elemental analyses, IR, UV-Visible, EPR, NMR spectroscopy, magnetic moments and conductance measurements. The complex of divalent metal ions are nonionic while those of trivalent metal ions are 1:1 electrolytes. For all of these complexes an octahedral stereochem. is proposed.

RX(22) OF 72 ...2 **AH** + 2 AI ===> **A**...



2 AH 2 AI (22)



A
YIELD 62%

RX(22) · RCT AH **17288-17-4**, AI 107-15-3

STAGE(1)

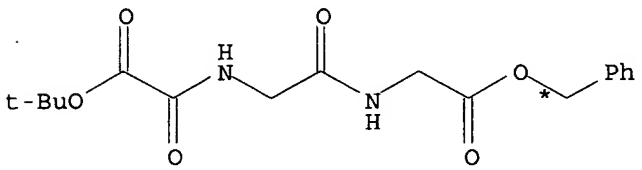
SOL 64-17-5 EtOH

STAGE(2)
RGT AJ 7647-01-0 HCl
SOL 7732-18-5 Water
PRO A **464932-99-8**
NTE buffered soln.
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib ab fhit 2-10 l24

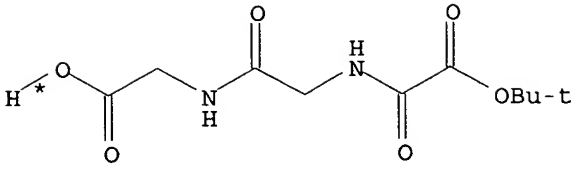
L24 ANSWER 2 OF 10 CASREACT COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 137:169772 CASREACT
TITLE: Synthesis, radiolabelling and biological evaluation of terminal oxamide derivatives of mercaptoacetyltriglycine
AUTHOR(S): Okarvi, S. M.; Torfs, P.; Adriaens, P.; Verbruggen, A. M.
CORPORATE SOURCE: Cyclotron & Radiopharmaceuticals Dept., King Faisal Specialist Hospital and Research Centre, Riyadh, 11211, Saudi Arabia
SOURCE: Journal of Labelled Compounds & Radiopharmaceuticals (2002), 45(5), 407-421
CODEN: JLCRD4; ISSN: 0362-4803
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB 99mTc-MAG3 is widely used in clin. nuclear medicine as a potential replacement of 131I-OIH for renal function studies. The terminal carbonylglycine in the MAG3 backbone is assumed to be essential for maintaining its efficient renal handling characteristics. A no. of MAG3-derivs. have been prepd. and evaluated in which the terminal carbonylglycine sequence is substituted by an oxamide moiety in order to study the effect of the modified carbonylglycine sequence on the renal handling characteristics. These "oxamide" derivs. have been synthesized starting from mercaptoacetic acid or cysteamine using the common synthetic procedures of peptide chem. These thiol-protected MAG3-precursors were labeled with 99mTc by an exchange method using tartrate as a complexing agent. Biodistribution studies in mice showed that some of these agents were cleared rapidly from the blood and efficiently excreted into the urine and displayed comparable renal excretion characteristics to those of 99mTc-MAG3.

RX(14) OF 94 ...**AJ** ===> **AK**...



AJ

(14)



AK

RX(14) RCT AJ **446235-34-3**
RGT AL 1333-74-0 H2
PRO AK **446235-35-4**
SOL 64-19-7 AcOH
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

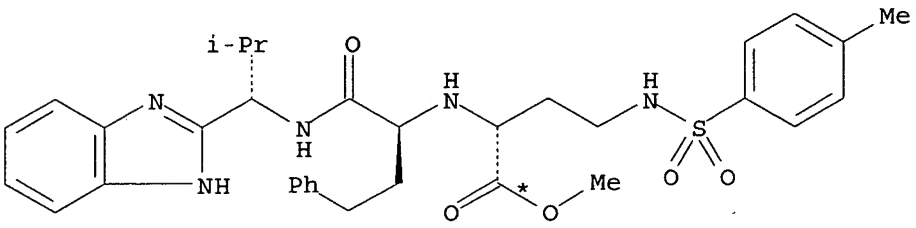
L24 ANSWER 3 OF 10 CASREACT COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 126:31664 CASREACT
TITLE: Preparation of novel hydroxamic acid and amino-carboxylate compounds as metalloprotease and TNF inhibitors
INVENTOR(S): Xue, Chu-Biao; Degrado, William F.; Decicco, Carl Peter
PATENT ASSIGNEE(S): Du Pont Merck Pharmaceutical Company, USA
SOURCE: PCT Int. Appl., 100 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9633176	A1	19961024	WO 1996-US5410	19960417
W: AU, CA, JP, MX, NZ				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5703092	A	19971230	US 1996-632863	19960416
AU 9656653	A1	19961107	AU 1996-56653	19960417
EP 821675	A1	19980204	EP 1996-913809	19960417
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI				
JP 11504015	T2	19990406	JP 1996-531921	19960417
PRIORITY APPLN. INFO.:			US 1995-423197	19950418
			US 1996-632863	19960416
			WO 1996-US5410	19960417

OTHER SOURCE(S): MARPAT 126:31664
AB Novel hydroxamic acid and carbocyclic acid derivs. I [A = NR8CR9R9aCO2H, CHR11CR9R9aCO2H, CR1R1aCONHOH; Q = optionally substituted Ph, heterocyclyl, benzoheterocyclyl; R1, R1a, R9, R9a = independently H, halogen, alkoxy, disubstituted amino, optionally substituted C1-4 alkyl, C2-4 alkenyl, C2-4 alkynyl, C6-10 aryl, C5-11 heterocyclyl, C3-8 cycloalkyl; CR1R1a, CR9R9a = optionally substituted 3-7 membered carbocyclic or heterocyclic ring; R2 = H, optionally substituted C1-6 alkyl, alkoxy, alkylthio, methylalkoxy, methylthioalkyl; R3 = H, optionally substituted C1-6 alkyl, C1-6 alkylene, C6-10 aryl, C3-7 cycloalkyl; R8 = H, optionally substituted C1-6 alkyl, C1-6 alkylcarbonyl, alkoxycarbonyl, alkylaminocarbonyl, arylalkoxycarbonyl, arylsulfonyl, heteroarylalkoxycarbonyl, cycloalkoxycarbonyl, heteroarylsulfonyl, alkylsulfonyl, cycloalkylsulfonyl; R10 = H, C1-4 alkoxy, optionally

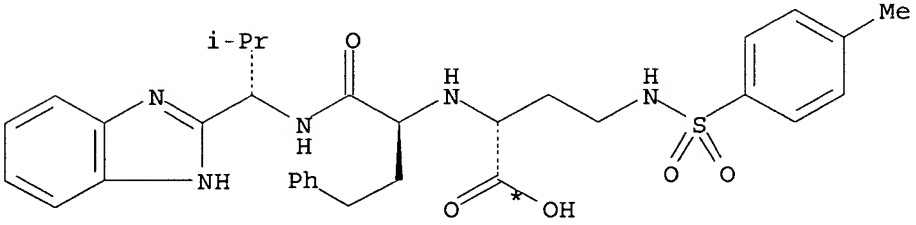
substituted C1-6 alkyl; R10a, R11, R14 = independently = H, C1-4 alkyl; CR10R10a = carbocyclic or heterocyclic ring;], and pharmaceutical compns. are prepd. and methods of use of these novel compds. for the inhibition of matrix metalloproteinases, such as stromelysin and other matrix metalloproteinases, and also compds. to inhibit the prodn. of tumor necrosis factor (TNF), and therefore useful for the treatment of arthritis and other related inflammatory diseases are given. Thus, hydroxamic acid II, prepd. in 6 steps via cyclocondensation of an N-protected amino acid with a substituted o-phenylenediamine, deprotection, further acylation with a butanedioic acid deriv., deprotection, and hydroxamic acid formation, inhibited matrix metalloproteinase-3 with Cmax = 0.96 .mu.M orally in rats.

RX(16) OF 75 ...**AY** ===> **AZ**



AY

(16)



AZ
YIELD 55%

RX(16) RCT AY **184685-23-2**
RGT BA 1310-65-2 LiOH
PRO AZ **184684-93-3**
SOL 7732-18-5 Water, 109-99-9 THF

L24 ANSWER 4 OF 10 CASREACT COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 123:257409 CASREACT
TITLE: Preparation of peptide analogs as kininogenase inhibitors.
INVENTOR(S): Szelke, Michael; Evans, David Michael; Jones, David Michael
PATENT ASSIGNEE(S): Ferring B. V., Neth.
SOURCE: PCT Int. Appl., 58 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English

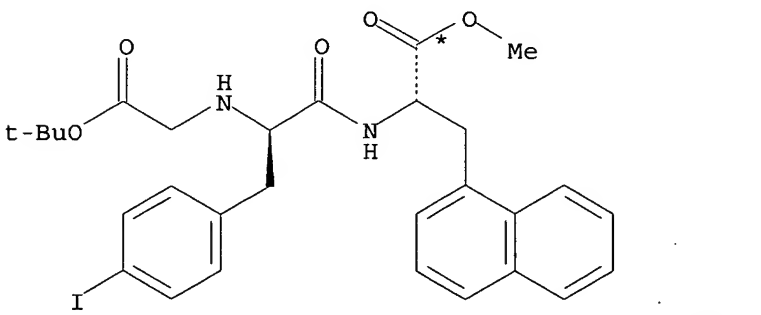
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9507291	A1	19950316	WO 1994-GB1887	19940831
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ				
RW: KE, MW, SD, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2170896	AA	19950316	CA 1994-2170896	19940831
AU 9475052	A1	19950327	AU 1994-75052	19940831
EP 736036	A1	19961009	EP 1994-924950	19940831
EP 736036	B1	20041013		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 09502434	T2	19970311	JP 1994-508506	19940831
ZA 9406872	A	19950630	ZA 1994-6872	19940907
TW 492954	B	20020701	TW 1994-83108389	19940908
FI 9601044	A	19960508	FI 1996-1044	19960306
NO 9600939	A	19960307	NO 1996-939	19960307
US 6096712	A	20000801	US 1996-605046	19960516
PRIORITY APPLN. INFO.:			GB 1993-18637	19930908
			WO 1994-GB1887	19940831

OTHER SOURCE(S): MARPAT 123:257409

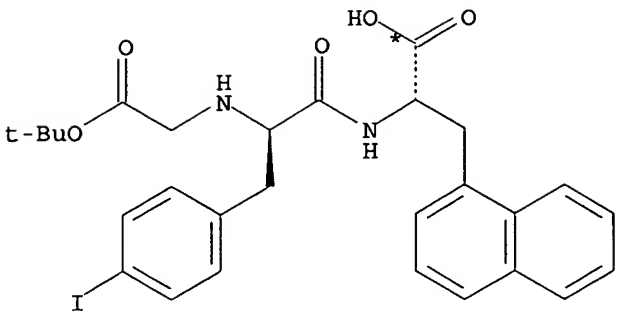
AB A1-A2-A3 (A1 = residue of an amino or imino acid or analog of L- or preferably D-configuration; A1 = Q1 when A2 = null; n = 1-5; R7, R8 = lipophilic group; A2 = residue of a lipophilic amino acid or analog of D- or preferably L-configuration excluding proline and analogs; A3 = DEFCR1R2CR3R4ZC(:NH)NHY; Y = H, NO2, cyano, CONH2, OH, NH2; Z = CH2, NH, S, O; R1-R6 = H, alkyl, OH, alkoxy, halo, SH, alkylthio; R1R2C, R3R4C = CO, cycloalkyl; D = NR11, SO2, CO, CH2, O, S, :CH; E = CR5R6, NR11; F = null, CR9R10; R9, R10 = H, alkyl; if E = CR5R6, then R9, R10 = R1; R11 = H, alkyl, OH; the amide bond between A1 and A2 or A2 and A3 may be replaced by a mimetic including CH2CH2, CH:CH, CF:CH, COCH2, CH2O, CH(OH)CH2, CH2S, etc.; the carbonyl group of A2 together with DEF may be replaced by a heterocyclic ring), were prepd. Thus, H-D-Pro-Phe-Nag (Nag = noragmatine) was prepd. by soln. phase means. Title compds. inhibited kininogenase in the range 10-3-10-9 M.

RX(40) OF 526 ...**CQ** ===> **CR**...



(40)

CQ

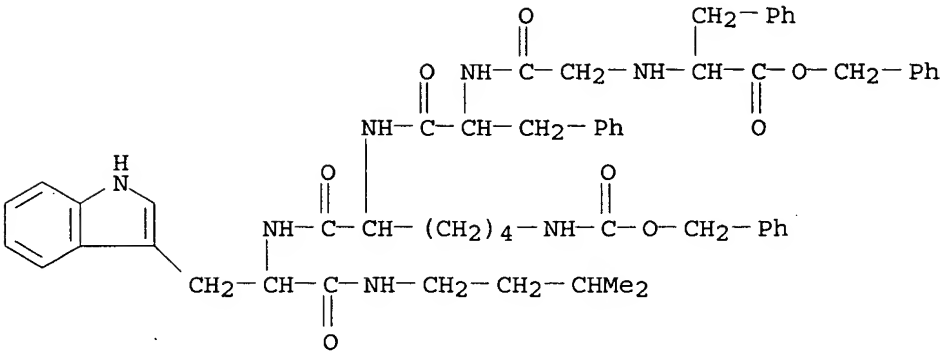


CR

RX(40) RCT CQ **168827-75-6**
RGT CS 1310-65-2 LiOH
PRO CR **168827-76-7**
SOL 7732-18-5 Water, 109-99-9 THF
NTE stereoselective

L24 ANSWER 5 OF 10 CASREACT COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 113:132795 CASREACT
TITLE: Inhibitors of human renin. Cyclic peptide analogs containing a D-Phe-Lys-D-Trp sequence
AUTHOR(S): Dutta, Anand S.; Gormley, James J.; McLachlan, Peter F.; Major, John S.
CORPORATE SOURCE: Chem. Dep., ICI Pharm., Macclesfield/Cheshire, SK10 4TG, UK
SOURCE: Journal of Medicinal Chemistry (1990), 33(9), 2560-8
CODEN: JMCMAR; ISSN: 0022-2623
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Cyclic peptides contg. D-phenylalanine and a D-tryptophan residues were prepd. and tested as inhibitors of human renin. Most of these are tripeptide derivs. of the type I and II [X, X1 = CH2, CHMe, CMe2, CHPh, CH(CH2Ph), CH(CH2CH2CHMe2)]. The 3 amino acid residues and the size of the ring were very important features of these compds. Reducing the ring size gave much less potent compds. The most potent analog of the series, I (X = CHPh, X1 = CH2) (IC50 = 26 nM), was 15-fold more potent in inhibiting human renin than porcine renin.

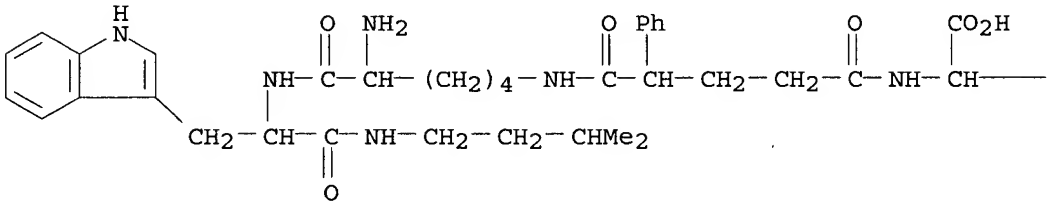
RX(23) OF 254 ...**BD** ===> **Z**...



BD

(23)

PAGE 1-A



PAGE 1-B

— CH_2 — Ph

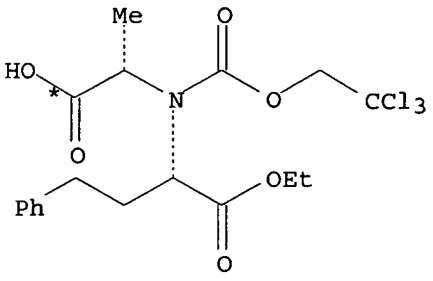
Z

RX(23) RCT BD **128684-62-8**
RGT AF 1333-74-0 H2
PRO Z **128684-23-1**
CAT 7440-05-3 Pd

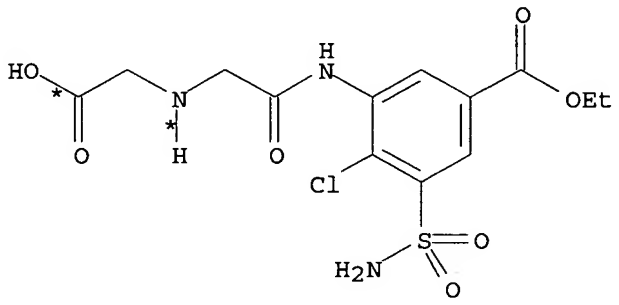
L24 ANSWER 6 OF 10 CASREACT COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 112:235824 CASREACT
TITLE: Angiotensin converting enzyme inhibitors. 9. Novel [[N-(1-carboxyl-3-phenylpropyl)amino]acyl]glycine derivatives with diuretic activity
AUTHOR(S): Barton, Jeffrey N.; Piwinski, John J.; Skiles, Jerry W.; Regan, John R.; Menard, Paul R.; Desai, Rohit; Golec, F. S.; Reilly, Laurence W.; Goetzen, Thomas; et al.
CORPORATE SOURCE: Rorer Cent. Res., Horsham, PA, 19044, USA
SOURCE: Journal of Medicinal Chemistry (1990), 33(6), 1600-6
CODEN: JMCMAR; ISSN: 0022-2623
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A series of mols. having sulfonamide diuretic moieties covalently linked to non-sulfhydryl angiotensin converting enzyme (ACE) inhibitors, e.g. I [R = Et, X = Ala, Z = NMeCH2, (S)-CH(CH2CHMe2); R = H, X = Ala, Lys, Lys(CO2CH2Ph), Z = CH2; R = H, X = Ala, Z = (CH2)3, (S)-CHMe], were prepd. and tested for both activities. I50 values for ACE inhibition as low as 7 nM were obsd. Discernable diuretic activity was seen for several hydrochlorothiazide-based mols. Effects of the ACE inhibitory and diuretic structures on the resp. potencies are discussed.

RX(48) OF 454 ...BB + **DD** ===> **CA**...



BB



DD

(48)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

RX(48) RCT BB 92893-50-0

STAGE(1)
RGT BM 79-37-8 (COCl)2
CAT 68-12-2 DMF
SOL 75-09-2 CH2Cl2

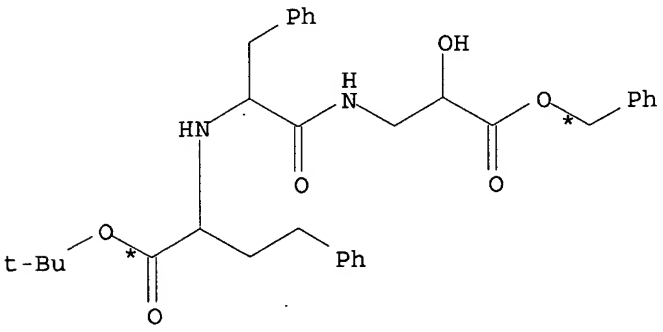
STAGE(2)
RCT DD **95717-98-9**
RGT BF 121-44-8 Et3N
SOL 7732-18-5 Water
PRO CA **95718-00-6**

L24 ANSWER 7 OF 10 CASREACT COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 110:173745 CASREACT
TITLE: Carboxyalkyl dipeptides with atrial natriuretic factor potentiating and antihypertensive activity
AUTHOR(S): Haslanger, Martin F.; Sybertz, Edmund J.; Neustadt, Bernard R.; Smith, Elizabeth M.; Nechuta, Terry L.; Berger, Joel
CORPORATE SOURCE: Dep. Chem. Res., Schering-Plough Res., Bloomfield, NJ, 07003, USA
SOURCE: Journal of Medicinal Chemistry (1989), 32(4), 737-9
CODEN: JMCMAR; ISSN: 0022-2623
DOCUMENT TYPE: Journal

LANGUAGE: English

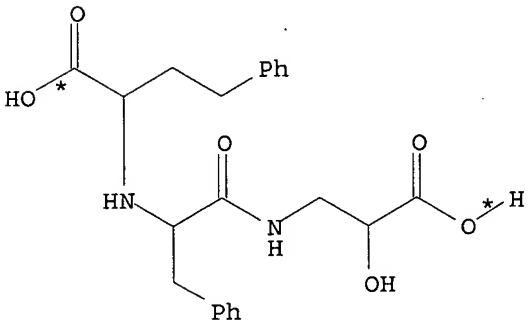
AB Carboxyalkyl dipeptide I was prepd. by soln. methods. I and related carboxyalkyl dipeptides inhibited neutral endopeptidase (NEP), a protease which inactivates atrial natriuretic factor (ANF) in vitro. These inhibitors of NEP potentiate the hypotensive activity of exogenous ANF and express antihypertensive activity in a rodent model of vol.-dependent hypertension. Although the precise role of ANF in the antihypertensive action of I remains to be established, these results suggest that inhibition of NEP represents a novel mechanism by which to reduce arterial blood pressure.

RX(5) OF 24 ...O ===> T



O

(5) →



T

YIELD 75%

RX(5) RCT O **119326-36-2**

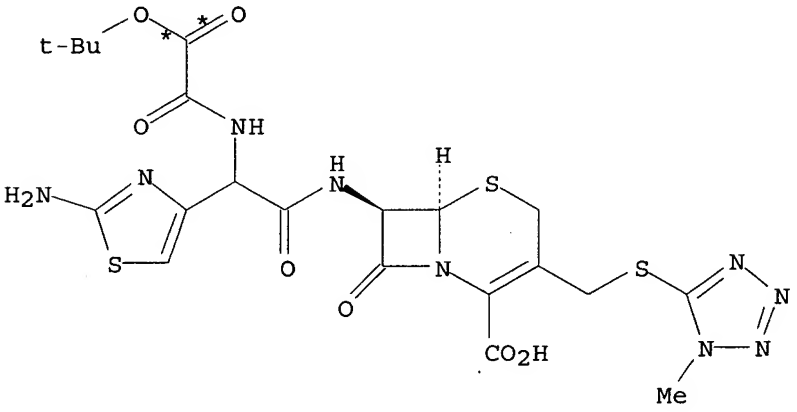
STAGE(1)
RGT K 1333-74-0 H2
CAT 7440-05-3 Pd
SOL 64-17-5 EtOH

STAGE(2)
RGT U 76-05-1 F3CCO2H

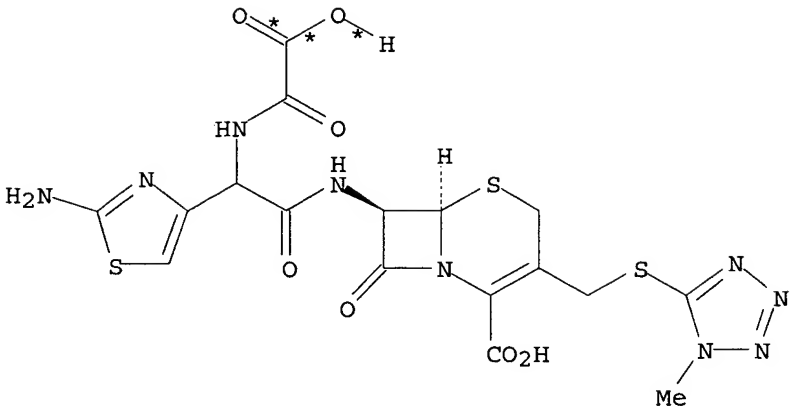
PRO T **115406-23-0**

L24 ANSWER 8 OF 10 CASREACT COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 108:37441 CASREACT
TITLE: Semisynthetic .beta.-lactam antibiotics. II. Synthesis and antibacterial activity of 7.beta.-[2-(acylamino)-2-(2-aminothiazol-4-yl)acetamido]cephalosporins
AUTHOR(S): Arimoto, Masahiro; Ejima, Akio; Watanabe, Toshifumi; Tagawa, Hiroaki; Furukawa, Minoru
CORPORATE SOURCE: Res. Inst., Daiichi Seiyaku Co., Ltd., Tokyo, 134, Japan
SOURCE: Journal of Antibiotics (1986), 39(9), 1236-42
CODEN: JANTAJ; ISSN: 0021-8820
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Cephalosporins I [R = CHMeNH2, H, Me, CO2H, CH2CO2H, CH2C(:NH)NH2, CH2NHCH:NH, NHC(:NH)NH2, CH2NHC(:NH)NH2] were synthesized, and the effect of each group on antibacterial activity was examd. I bearing an amidino or guanidino group showed broad spectrum antibacterial activity similar to that of cefotaxime, but they were relatively sensitive to .beta.-lactamases.

RX(3) OF 17 ...I ===> J



I (3) →

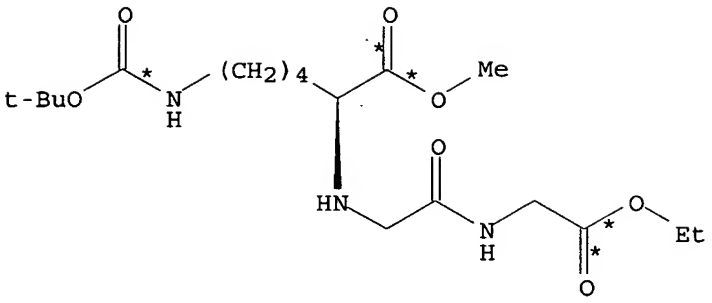


J
YIELD 16%

RX(3) RCT I **83118-75-6**
RGT K 76-05-1 F3CCO2H, L 100-66-3 PhOMe
PRO J **83118-76-7**

L24 ANSWER 9 OF 10 CASREACT COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 104:207636 CASREACT
TITLE: Synthesis of N-(1-carboxy-5-aminopentyl) dipeptides as inhibitors of angiotensin- converting enzyme
AUTHOR(S): Escher, Ruediger; Buenning, Peter
CORPORATE SOURCE: Biochem. Inst., Univ. Freiburg, Freiburg, D-7800, Fed. Rep. Ger.
SOURCE: Angewandte Chemie (1986), 98(3), 264-5
CODEN: ANCEAD; ISSN: 0044-8249
DOCUMENT TYPE: Journal
LANGUAGE: German
AB Title dipeptides H2N(CH2)4CH(CO2H)NHCHRCONHCHR1CO2H (I; R = H, Me; R1 = H, Me, CHMe2, CH2Ph) were prepd. by condensing BocNH(CH2)4CH(CO2Me)NHCHRCO2R2 (II; Boc = Me3CO2C, R = H, Me; R2 = H) (III) with H2NCHR1CO2R3 (R1 = H, CH2Ph, R3 = Et; R1 = Me, CHMe2, R3 = Me) by propylphosphonic acid anhydride and deblocking the resulting BocNH(CH2)4CH(CO2Me)NHCHRCONHCHR1CO2R3 by sapon. followed by acidolysis with CF3CO2H. HOCHRCO2CH2Ph (R = H, Me) were sulfonylated with (CF3SO2)2O to give CF3SO3CHRCO2CH2Ph, which was treated with BocNH(CH2)4CH(CO2Me)NH2 to give II (R = H, Me; R2 = CH2Ph), which were debenzylated by hydrogenolysis to give III. I inhibited angiotensin-converting enzyme; I (R = R1 = Me) was the best inhibitor with an IC50 of 10 nmol/L.

RX(16) OF 86 ...**U** ===> **AG**



U

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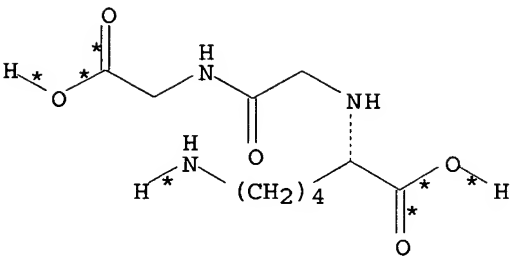


AG

RX(16) RCT U **100573-72-6**

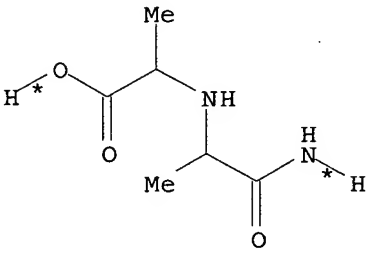
STAGE(1)
RGT AH 1310-73-2 NaOH
SOL 7732-18-5 Water

STAGE(2)
RGT AI 76-05-1 F3CCO2H
PRO AG **100573-80-6**

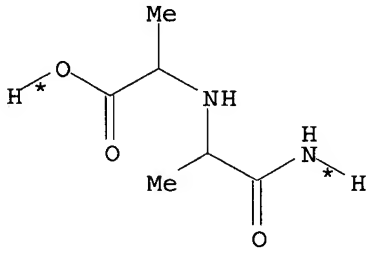
L24 ANSWER 10 OF 10 CASREACT COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 104:168794 CASREACT
TITLE: Gas chromatography-mass spectrometry of trimethylsilylated imino derivatives of alanine
AUTHOR(S): Kawashiro, Katsuhiro; Morimoto, Shiro; Yoshida, Hideyuki
CORPORATE SOURCE: Fac. Eng., Tokushima Univ., Tokushima, 770, Japan
SOURCE: Bulletin of the Chemical Society of Japan (1985), 58(7), 1903-12
CODEN: BCSJA8; ISSN: 0009-2673
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Alanine imino derivs. RCHMeNHCHMeR1 [R = R1 = CN (I), CONH2, CO2H; R = CN, R1 = CONH2 (II), CO2H; R = CONH2, R1 = CO2H] and piperazinedione III were trimethylsilylated and the reaction products were identified by gas chromatog.-mass spectrometry. Under the reaction conditions (100.degree. for 30 min), hydrogen atoms of carboxyl and carbamoyl groups and an imide hydrogen were readily replaced by the trimethylsilyl group, but imino hydrogens were not replaced because of the steric hindrance of

N-substituent group. For the carbamoyl group, only one hydrogen was replaced. I was not trimethylsilylated and no definite trimethylsilylation products were obtained for II. Prepns. and properties of some of the imino derivs. are described.

RX(10) OF 29 ...**P** + Q ===> **AD** + AE



P



Q

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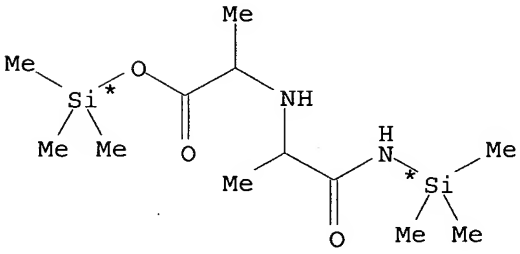
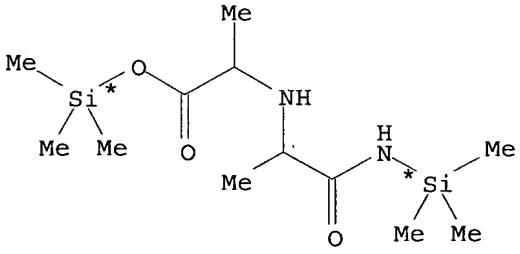


AD



AE

RX(10) RCT P **101541-17-7**, Q 101541-18-8
RGT Y 25561-30-2 Me3SiN:C(CF3)OSiMe3
PRO AD **101479-21-4**, AE 101541-21-3
SOL 75-05-8 MeCN

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=> d stat que l22; s l22 not l23
L20             STR
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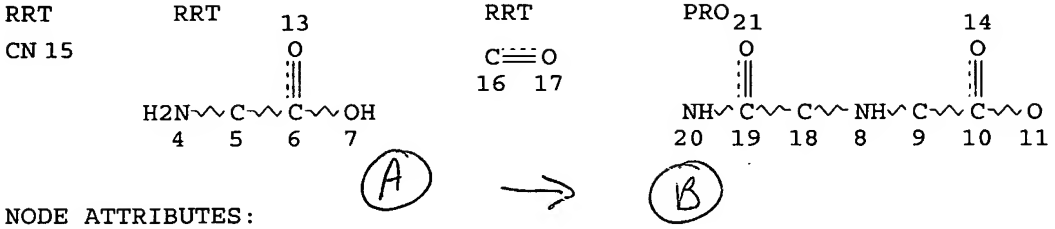


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NSPEC   IS RC     AT  16
NSPEC   IS RC     AT  18
CONNECT IS M3  RC AT   9
DEFAULT MLEVEL IS ATOM
MLEVEL  IS CLASS  AT   8
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  17

STEREO ATTRIBUTES: NONE
L22           8 SEA FILE=CASREACT SSS FUL L20 (     25 REACTIONS)

100.0% DONE  10153 VERIFIED      25 HIT RXNS (      2 INCOMP)       8 DOCS
SEARCH TIME: 00.00.04

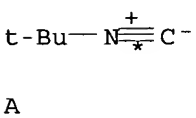

L25           6 L22 NOT L23   previously printed

=> d ibib ab fhit 1-6 l25; fil hom

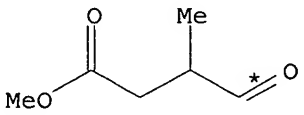

L25  ANSWER 1 OF 6  CASREACT  COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER:         136:6308  CASREACT
TITLE:                    Siloxycyclopropanes in Ugi four-component reaction: a
                          new method for the synthesis of highly substituted
                          pyrrolidinone derivatives
AUTHOR(S):                Zimmer, Reinhold; Ziemer, Antje; Gruner, Margit;
                          Brudgam, Irene; Hartl, Hans; Reissig, Hans-Ulrich
CORPORATE SOURCE:         Institut fur Chemie - Organische Chemie, Freie
                          Universitat Berlin, Berlin, 14195, Germany
SOURCE:                   Synthesis (2001), (11), 1649-1658
                          CODEN: SYNTBF; ISSN: 0039-7881
PUBLISHER:                Georg Thieme Verlag
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
AB   Reaction of Me trimethylsiloxycyclopropanecarboxylates I (R1 = H, Me; R6 =
     H, Me; R7 = H, Me) with amino acids, tert-butylisonitrile and methanol
     furnished amino diacid derivs. II [R2 = Bn, CH2indolyl, Me, CHMeEt; R3 =
     CH2, (CH2)2; R8 = H, Me; R9 = H, Me] as the result of an Ugi 5-center
     4-component reaction.  This one-pot reaction involves .beta.-formyl esters
     such as MeOCOCH2CH(Me)COH as intermediate, which are liberated in situ.
     Adducts II could be thermally cyclized to provide .gamma.-lactams in good
     yields.  The multi component reaction was combined with this cyclization
     process to a fairly efficient one-pot procedure.  Thus, cyclopropane
     deriv. I (R1 = H) was converted into .gamma.-lactam III in good yield.
```

Two of the .gamma.-lactams were reduced with lithium aluminum hydride to give pyrrolidine derivs. IV (R4 = R5 = Me; R4 = H, R5 = Bn). Based on an X-ray anal. of the major diastereomer of compd. IV (R4 = H, R5 = Bn), the diastereoselectivity of the 4-component reaction is discussed.

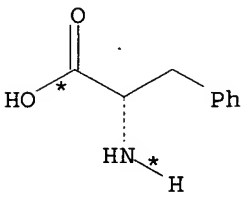
RX(2) OF 27 **A** + **B** + **C** + **E** ===> **G**...



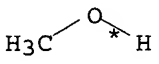
A



B

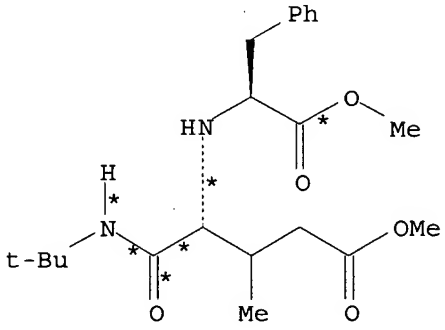


C



E

(2)



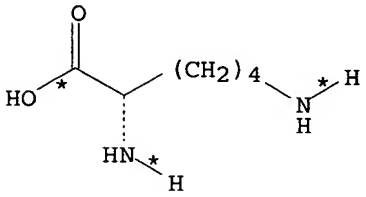
G
YIELD 82%

RX(2) RCT A **7188-38-7**, B **65038-34-8**, C **63-91-2**
, E 67-56-1
PRO G **374936-65-9**
SOL 67-56-1 MeOH
NTE four Isomers 42:39:10:9 isolated (R-major Isomer)
REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

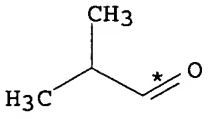
L25 ANSWER 2 OF 6 CASREACT COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 135:33214 CASREACT
TITLE: Formation of 1,1'-iminodicarboxylic acid derivatives, 2,6-diketo-piperazine, and dibenzodiazocine-2,6-dione by variations of multicomponent reactions
AUTHOR(S): Ugi, I. K.; Ebert, B.; Horl, W.
CORPORATE SOURCE: Lehrstuhl I fur Organische Chemie und Biochemie der Technischen Universitat, Garching, 85747, Germany
SOURCE: Chemosphere (2001), 43(1), 75-81
CODEN: CMSHAF; ISSN: 0045-6535
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The combination of multicomponent reactions (MCRs) of different amino acids, aldehydes, isocyanides, and acids allows complex structures to be prepd. in one-pot reactions. The synthesis of 1,1'-iminodicarboxylic acid derivs. 12 demonstrates the high selectivity of the Ugi Four Component

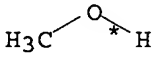
Reaction using two different aldehydes and two different isocyanides. The limitations of the MCRs are illustrated by the synthesis of a 1,1'-iminodicarboxylic acid deriv. 6 from l-lysine. Furthermore, 2,6-diketopiperazines and dibenzodiazocin-2,6-diones are synthesized via MCRs.

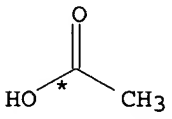
RX(2) OF 6 **A** + 2 **B** + G + H + 2 **I**
===> **J**



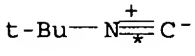
● HCl





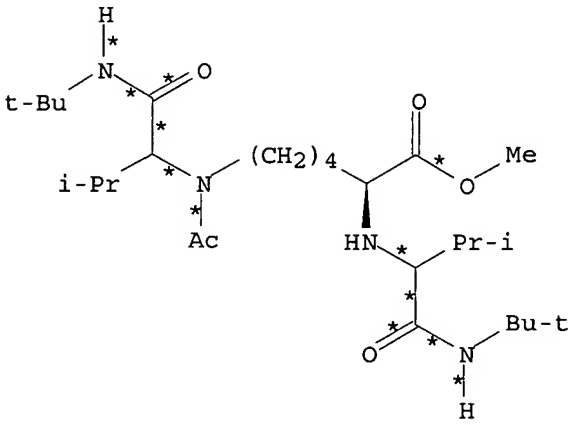


A 2 B G H



2 I

(2) ⟶



J
YIELD 8%

RX(2) RCT A **657-27-2**, B **78-84-2**, G 67-56-1

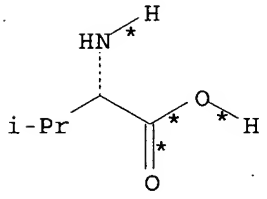
STAGE(1)
SOL 67-56-1 MeOH

STAGE(2)
RCT H 64-19-7, I 7188-38-7
PRO J **343930-18-7**

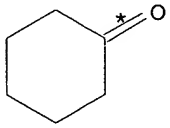
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 3 OF 6 CASREACT COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 128:294758 CASREACT
TITLE: MCR 6: chiral 2,6-piperazinediones via Ugi reactions with .alpha.-amino acids, carbonyl compounds, isocyanides and alcohols
AUTHOR(S): Ugi, Ivar; Horl, Werner; Hanusch-Kompa, Cordelia; Schmid, Thomas; Herdtweck, Eberhardt
CORPORATE SOURCE: Lehrstuhl Organische Chemie Biochemie, Technischen Universitat Munchen, Garching, D-85747, Germany
SOURCE: Heterocycles (1998), 47(2), 965-975
CODEN: HTCYAM; ISSN: 0385-5414
PUBLISHER: Japan Institute of Heterocyclic Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A simple one-pot reaction based on the well known Ugi reaction for the generation of 2,6-piperazinediones is described, involving the multicomponent reaction (MCR) of .alpha.-amino acids, carbonyl compds., isocyanides and alcs. For example, (L)-alanine, Me isocyanate, and 1,4-dioxaspiro[4.5]decan-8-one were combined in MeOH with 1 equiv of NEt3 to give I in 67% yield.

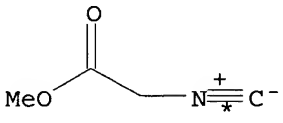
RX(4) OF 11 **A** + **H** + **K** + D ===> **L**



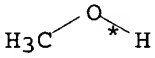
A



H

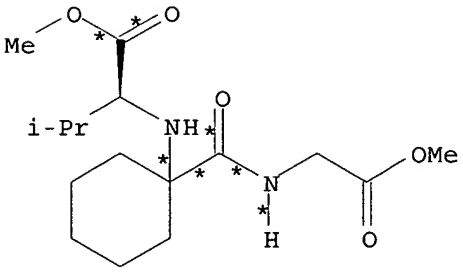


K



D

(4)

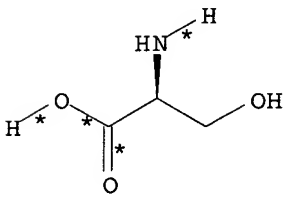


L
YIELD 64%

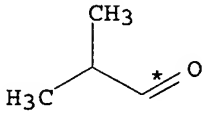
RX(4) RCT A **72-18-4**, H **108-94-1**, K **39687-95-1**
, D 67-56-1
PRO L **206069-16-1**
SOL 67-56-1 MeOH
NTE chemoselective
REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 4 OF 6 CASREACT COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 125:301503 CASREACT
TITLE: Ugi reactions with trifunctional .alpha.-amino acids, aldehydes, isocyanides and alcohols
AUTHOR(S): Ugi, Ivar; Demharter, Anton; Hoerl, Werner; Schmid, Thomas
CORPORATE SOURCE: Lehrstuhl Org. Chem. Biochem., Tech. Univ. Muenchen, Garching, D-85747, Germany
SOURCE: Tetrahedron (1996), 52(35), 11657-11664
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB 1,1'-Iminodicarboxylic acid derivs., which are similar to many natural substances, can be synthesized in excellent yields and with high stereoselectivity by a one-pot reaction of .alpha.-amino acids, aldehydes, isocyanides and alcs.

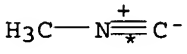
RX(1) OF 1 **A** + **B** + **C** + D ===>
E



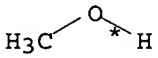
A



B

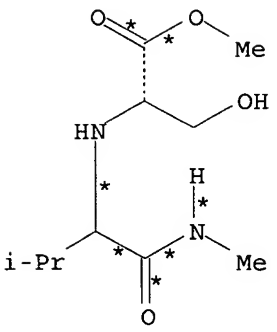


C



D

(1)

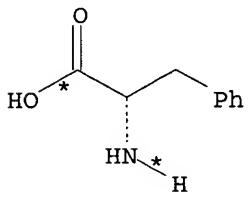


E
YIELD 98%

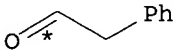
RX(1) RCT A **56-45-1**, B **78-84-2**, C **593-75-9**,
D 67-56-1
PRO E **182552-08-5**
SOL 67-56-1 MeOH

L25 ANSWER 5 OF 6 CASREACT COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 124:261647 CASREACT
TITLE: Synthesis of chiral 1,1'-iminodicarboxylic acid derivatives from .alpha.-amino acids, aldehydes, isocyanides, and alcohols by the diastereoselective five-center-four-component reaction
AUTHOR(S): Demharter, Anton; Hoerl, Werner; Herdtweck, Eberhardt; Ugi, Ivar
CORPORATE SOURCE: Lehrstuhl Organische Chemie, Biochemie Universitaet, Munich, Germany
SOURCE: Angewandte Chemie, International Edition in English (1996), 35(2), 173-5
CODEN: ACIEAY; ISSN: 0570-0833
PUBLISHER: VCH
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Yields of up to 98% and diastereomeric excesses of up to 84% are the advantages the title versatile multicomponent reaction for the synthesis of iminodicarboxylic acid derivs. in a one-pot reaction.

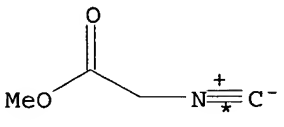
RX(2) OF 3 2 **G** + 2 H + 2 **I** + 2 D ===> **J**
+ K



2 G



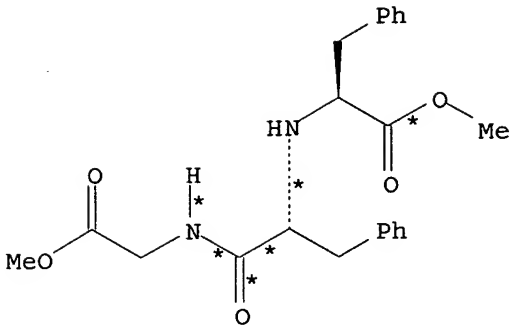
2 H



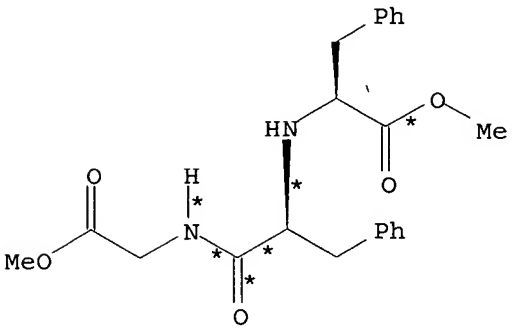
2 I

2 D

(2)



J



K

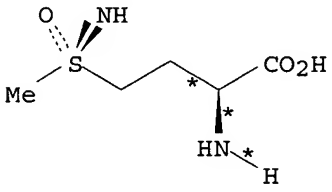
RX(2) RCT G **63-91-2**, H 122-78-1, I **39687-95-1**, D 67-56-1
PRO J **169453-01-4**, K 169453-00-3
SOL 67-56-1 MeOH
NTE 99% overall yield, stereoselective

L25 ANSWER 6 OF 6 CASREACT COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 111:23934 CASREACT
TITLE: Synthesis of inhibitors of the meso-diaminopimelate-adding enzyme from Escherichia coli
AUTHOR(S): Abo-Ghalia, Mohamed; Flegel, Martin; Blanot, Didier; Van Heijenoort, Jean
CORPORATE SOURCE: Unit Mol. Cell. Biochem., Univ. Paris-South, Orsay, Fr.
SOURCE: International Journal of Peptide & Protein Research (1988), 32(3), 208-22
CODEN: IJPPC3; ISSN: 0367-8377
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In order to obtain inhibitors of the meso-diaminopimelate-adding enzyme, which participates in the biosynthesis of bacterial peptidoglycan, several N.alpha.-propionyldipeptides of the general formula Pr-L-Ala-ambo-Xaa-OH were synthesized. Xaa represented methionine S,S-dioxide, methionine S-oxide, methionine sulfoximine, and 2-amino-4-phosphonobutyric acid; i.e. transition state analogs of glutamine synthetase and .gamma.-glutamylcysteine synthetase, which catalyze the same type of reaction as

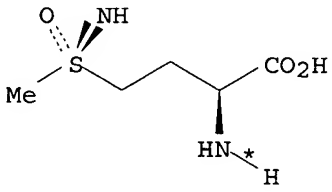
the target enzyme. After synthesis, the diastereoisomers were sepd. by preparative HPLC or TLC; those contg. methionine derivs. could be identified by comparison to previously synthesized ref. compds. After preincubation with the meso-diaminopimelate-adding activity from Escherichia coli, the LD diastereoisomers displayed moderate inhibitory effects, whereas the LL ones were inefficient. The best inhibition was obtained with one diastereoisomer of Pr-L-Ala-.xi.-2-amino-4-phosphonobutyrate, presumably the LD one. A chlormethyl ketone deriv., Pr-L-Ala-D-Glu(CH2Cl)-OH, a potential affinity labeler of the meso-diaminopimelate-adding enzyme, was also synthesized. In the assay with preincubation, this compd. behaved as the best inhibitor.

VERIFICATION INCOMPLETE

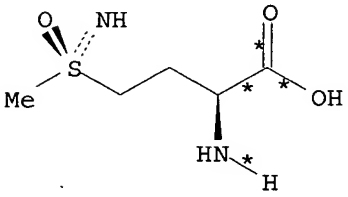
RX(80) OF 99 COMPOSED OF RX(3), RX(8), RX(13), RX(18), RX(19)
RX(80) 4 H + 20 I + 24 E + 4 BH ===> BI + BJ + BK + BL



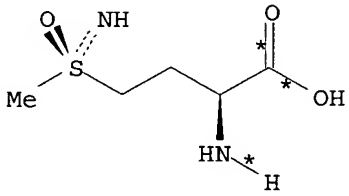
H



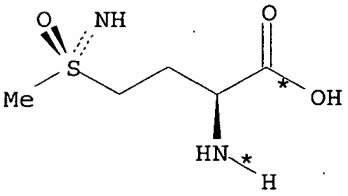
3 H



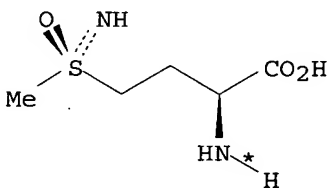
I



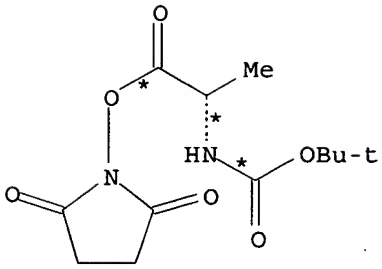
4 I



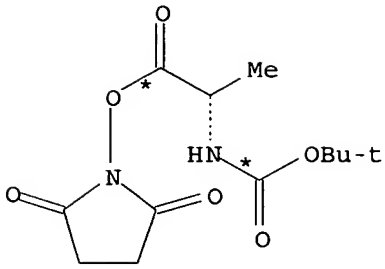
3 I



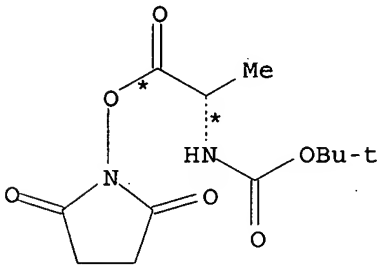
12 I



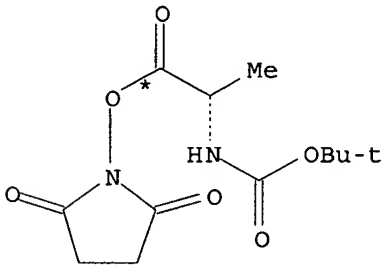
E



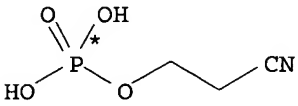
3 E



4 E

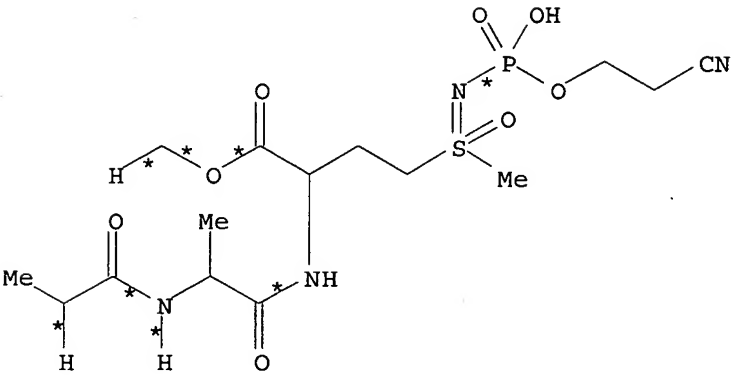


16 E

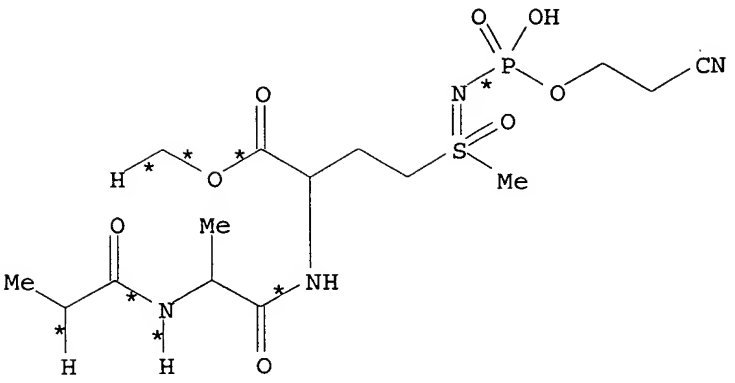


4 BH

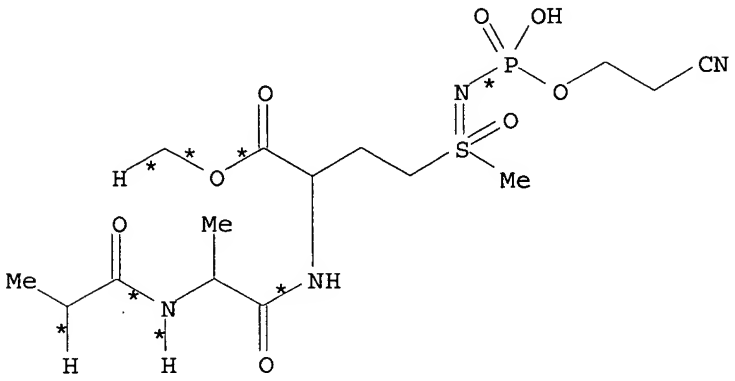
5
STEPS



BI



BJ



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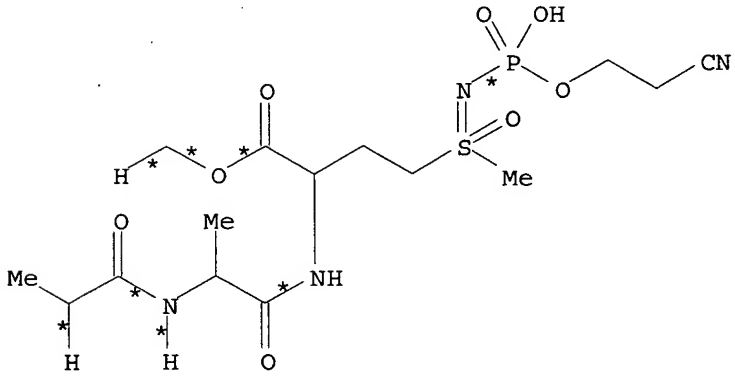

BL

RX(3) RCT H 121249-45-4, I 121249-46-5, E 3392-05-0
RGT N 144-55-8 NaHCO3
PRO J 121178-91-4, K 121249-49-8, L 121249-50-1, M 121249-51-2
SOL 7732-18-5 Water

RX(8) RCT J 121178-91-4, K 121249-49-8, L 121249-50-1, M 121249-51-2
RGT Z 76-05-1 F3CCO2H
PRO AA 121178-98-1, AB 121249-56-7, AC 121249-58-9, AD 121249-60-3

RX(13) RCT AA 121178-98-1, AB 121249-56-7, AC 121249-58-9, AD 121249-60-3
RGT N 144-55-8 NaHCO3, AL 30364-55-7 2,5-Pyrrolidinedione, 1-(1-oxopropoxy)-
PRO AM 121249-67-0, AN 121249-68-1, AO 121249-69-2, AP 121249-70-5
SOL 7732-18-5 Water
NTE 70% overall

RX(18) RCT AM 121249-67-0, AN 121249-68-1, AO 121249-69-2, AP 121249-70-5
RGT BF 7647-01-0 HCl
PRO BB 121179-08-6, BC 121249-75-0, BD 121249-76-1, BE 121249-77-2
SOL 67-56-1 MeOH
NTE 72% overall

RX(19) RCT BB 121179-08-6, BC 121249-75-0, BD 121249-76-1, BH 2212-88-6
RGT BM 124-38-9 CO2
PRO BI 121179-09-7, BJ 121249-78-3, BK 121249-79-4, BL 121249-80-7
SOL 110-86-1 Pyridine
NTE Stereoisomeric reactant also present

FILE 'HOME' ENTERED AT 15:07:48 ON 09 NOV 2004